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THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PER--ETC(U)
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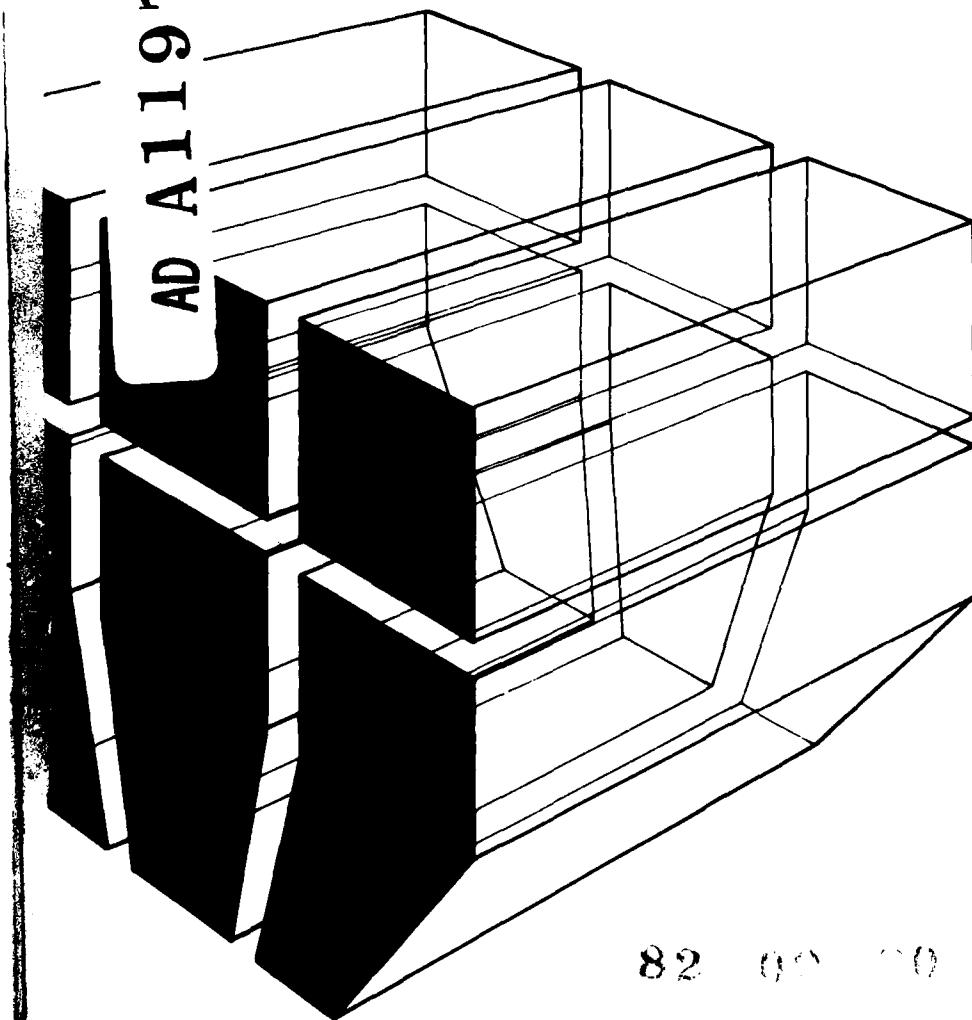
TECHNICAL REPORT N-133

August 1982

Hazardous/Toxic Materials Management System

**THE NATIONAL POLLUTANT DISCHARGE ELIMINATION
SYSTEM (NPDES) PERMIT MANAGEMENT SYSTEM:
PILOT SYSTEM DESCRIPTION**

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This report describes a pilot NPDES Permit Management System developed by the U.S. Army Construction Engineering Research Laboratory (CERL). This program allows the Army to retrieve from a central data base a permanent, continually updated inventory of the Army's wastewater effluent discharge self-monitoring information and associated NPDES permit data. This system also lets the Army aggregate, manipulate, and analyze the data base information. This report gives a brief background of the pilot system's development, suggests how the system can be used to help manage the Army's pollution abatement program, and gives detailed user instructions.

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FOREWORD

This study was sponsored by the Directorate of Military Programs, Office of the Chief of Engineers (OCE), under Project 4A762720A896, "Environmental Quality for Construction and Operation of Military Facilities"; Task A; Work Unit 034, "Hazardous/Toxic Materials Management System." LTC D. Gilson was the OCE Technical Monitor. The work was also funded in part by the Army Environmental Hygiene Agency under IAO AEHA 82-60.

The work was performed by the Environmental Division (EN) of the U.S. Army Construction Engineering Research Laboratory (CERL). This research was made possible through the efforts of OCE and Army Environmental Hygiene Agency personnel. Administrative support and counsel were provided by Dr. R. K. Jain, Chief of CERL-EN.

COL Louis J. Circeo is Commander and Director of CERL, and Dr. L. R. Shaffer is Technical Director.

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THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT MANAGEMENT SYSTEM: PILOT SYSTEM DESCRIPTION

1 INTRODUCTION

Background

The Clean Water Act of 1977 prohibits the discharge of pollutants from a point source into a receiving stream unless the discharge is authorized by the U.S. Environmental Protection Agency (USEPA) or the State EPA. Army regulation (AR) 200-1, *Environmental Protection and Enhancement*, requires Army installations to comply with these Federal and State regulations.¹

Point-source wastewater effluents are authorized by a National Pollutant Discharge Elimination System (NPDES) permit. This permit names the type and amount of pollutants that can be released from each point source. The holder of each permit also must submit, at specified intervals, self-monitoring reports which describe the quality of the effluent actually discharged.

A recent General Accounting Office study reported that 87 percent of municipal wastewater treatment plants are in violation of their NPDES permits.² Some 31 percent of those plants show serious, long-term violations which indicate overloaded conditions.

The Army's NPDES compliance record is much better. The latest year of record for one major command (MACOM) shows only 79 discharges in non-compliance out of 351 point sources regulated by NPDES permit. This represents just 22 percent non-compliance—four times better than the national average.

NPDES compliance is a nationwide problem because new pollution control facilities often are designed poorly, and because old facilities which cannot meet today's strict NPDES discharge limits are still in use.

¹*Environmental Protection and Enhancement*, Army Regulation 200-1 (Department of the Army, 1982).

²*Costly Wastewater Plants Fail to Perform as Expected*, CE 0812-9, Report by the Comptroller General of the United States, CED 81-9 (General Accounting Office, November 14, 1980).

Most of the Army's NPDES compliance problems fall into this latter category. The Army has been issued hundreds of NPDES permits, many of which regulate trickling filter plants designed during World War II. Some of these plants may have to be upgraded to meet future permit requirements, either by retrofit (new construction), or by changing their process control. To insure the Army's limited construction and research money is spent where it will do the most good, the Army must find:

1. Which of its point-source discharge sites are in the most serious jeopardy of violating current or future NPDES limits.

2. Which sites could be made to comply with NPDES limits with only process control changes, rather than with costly new construction.

To do this, the Army managers who set pollution abatement priorities must have quick, easy access to a complete data base of Army NPDES permits and their associated self-monitoring reports. They also must be able to manipulate and analyze this data base.

An Army-wide NPDES permit data base and data management system could help managers at every level in the Army. At the installation level, the Directorate of Facilities Engineering (DFE) would have an easily accessible, readable operating log of the wastewater treatment processes at their installation. This log could be used to develop and analyze operational data needed to make changes in process control, build a case for requesting an exemption from NPDES discharge limits, or write a proposal for new facility construction. The log's historical data also could be used to support the Metcalf and Eddy RODA System, now being evaluated for Army use, which helps "fine-tune" a plant so it performs to its maximum capabilities.³

MACOMs could use the system to rank new construction requests related to pollution abatement.

Decision-makers in the Office of the Chief of Engineers (OCE) could use the system to find recurring or widespread problems at Army pollution abatement facilities, thus pinpointing those areas where research into improving pollution abatement facilities should be focused.

³*RODA, Records and Operations Data Analysis* (Metcalf and Eddy, Inc., Boston, MA).

Installation, MACOM, OCE, and Department of the Army personnel could use the system to help assess the impact various levels of mobilization would have on pollution abatement facilities in their jurisdiction.

Objective

The objective of this work was to develop (1) a pilot data base of Army NPDES permits and self-monitoring reports, and (2) a computer-aided system to retrieve, aggregate, manipulate, and analyze data base information easily.

Approach

A limited data base containing only U.S. Army Training and Doctrine Command (TRADOC) NPDES permits and reports was assembled. System management data and summary requirements were collected from Headquarters TRADOC, Environmental Coordinators at several TRADOC installations, OCE, and the U.S. Army Environmental Hygiene Agency (USAEHA). An interactive pilot NPDES Permit Management System was then designed and programmed.

Mode of Technology Transfer

Technology transfer will be in accordance with AR 18-1, *Army Automation Management* (Department of the Army, 15 August 1980).

2 THE NPDES—OVERVIEW

The NPDES regulations regulate pollutant discharges in two ways:

1. Each discharge must be authorized by a permit. Figure 1 is a topical list of all information contained in an NPDES permit for USEPA Region IV.* All permits list discharge limits and monitoring requirements. That is, all permits control the rate at which various pollutants can be discharged, and set specific requirements for sampling and testing wastewater effluents to determine if discharge limits are being met (Figure 2).

2. Every generator of a permitted discharge must submit periodic, self-monitoring reports giving detailed information about the pollutant levels actually discharged during the time period covered by each report.

*The USEPA divides the United States into 10 management regions. Unfortunately, permits issued by these regions do not have a uniform format.

A sample Discharge Monitoring Report, EPA Form 3320-1, is shown in Figure 3. A permit's requirements are compared to the data in the self-monitoring report to determine whether a generator is complying with NPDES permit conditions.

3 THE PILOT NPDES PERMIT MANAGEMENT SYSTEM

The Data Base

An NPDES Permit Management System data base was assembled from information extracted from USEPA records of NPDES permits issued to TRADOC installations and associated TRADOC self-monitoring reports. This information fell into five groups:

1. Descriptive information. Each permit gives the name of the installation holding the permit, the NPDES permit number, a description of the type of discharge (e.g., washrake or sewage treatment plant), and the EPA region, watershed, State, county, and city in which the discharge occurs.
2. Event schedules. Each permit lists events and deadlines that must be met as the discharge is brought into compliance and maintained.
3. Effluent limitations. Each permit lists wastewater constituents (e.g., ammonia or organics) that must be monitored. Also listed are the maximum acceptable level of those constituents in the discharge, and how often and in what ways monitoring samples must be taken.
4. Current reports. These reports give the level of each wastewater constituent actually discharged during each reporting period.
5. Special information. Both permits and reports list notes, memos, special cases, and exceptions pertinent to each discharge.

Retrieving Information From the Data Base

To retrieve information from the pilot system's data base, the user must tell the system exactly what part of the data base he* is interested in reviewing.

*The male pronoun is used throughout this report to refer to both genders.

Name of Permittee:
Application Number:
Permit Number:
Effective Date of Permit:
Expiration Date of Permit:
Permit Issued By:
Location of Discharge:
Name of Receiving Water:
Classification of Receiving Water

Part I

- A. Effluent Limitations and Monitoring Requirements
 - 1. Period of Authorization for Discharge
 - 2. Effluent Limitations
 - 3. Sampling Point, Type, and Frequency
 - 4. Effluent-Influent Qualities Relationship To Be Satisfied
- B. Schedule of Compliance
- C. Monitoring and Reporting
 - 1. Representative Sampling
 - 2. Reporting
 - 3. Test Procedures
 - 4. Reporting Results
 - 5. Additional Monitoring by Permittee
 - 6. Records Retention
 - 7. Location of Sampling Points
 - 8. Flow Determination
 - 9. Substitution for BOD Tests

Part II

- A. Management Requirements (when the following occur)
 - 1. Change in Discharge
 - 2. Non-compliance
 - 3. Facilities Operation
 - 4. Adverse Impact
 - 5. Bypassing
 - 6. Removed Substances
 - 7. Power Failure
- B. Responsibilities
 - 1. Right of Entry
 - 2. Transfer of Ownership or Control
 - 3. Availability of Reports
 - 4. Permit Notification
 - 5. Toxic Pollutants
 - 6. Civil and Criminal Liability
 - 7. Oil and Hazardous Substance Liability
 - 8. State Laws
 - 9. Property Rights
 - 10. Severability

Part III—Other Requirements

- A. Definitions
 - a. Flow
 - b. Concentration and Any Value Other Than Fecal Coliform Bacteria, Flow, or Loading
 - c. Fecal Coliform
 - d. Loading
 - e. Other Definitions
- 2. Discharge Sources
 - a. Potable and Industrial Water Treatment Facilities
 - b. Cooling Systems
 - c. Boilers
 - d. Vehicle and Equipment Cleaning Facilities
 - e. Painting and Corrosion Control Facilities
 - f. Petroleum Storage and Handling Areas
 - g. Vehicle and Equipment Maintenance Facilities
 - h. Battery Rework Facilities
 - i. Photographic Laboratories
 - j. Fire Fighter Training Areas
- B. Additional Permitted Discharges
 - 1. Applicability
 - 2. General Conditions
 - 3. Interim Discharge Limitations and Monitoring Requirements
 - 4. Final Discharge Limitations and Monitoring Requirements
 - a. General Requirements
 - b. Special Conditions
 - (1) Discharge Less Than 2000 gpd
 - (2) Discharges to Storm Sewers
- c. Discharge Limitations and Monitoring Requirements
 - (1) Potable and Industrial Water Treatment Facilities (Including Filters, Softeners, and Demineralizers)
 - (2) Cooling Water, Cooling Tower Blowdown, and Cleaning Wastes
 - (3) Boiler Blowdown
 - (4) Vehicle Equipment Cleaning Facilities
 - (5) Painting and Corrosion Control Facilities
 - (6) Vehicle and Equipment Maintenance and Storage
 - (7) Petroleum, Oil, and Lubricant (POL) Storage Handling Areas
 - (8) Battery Maintenance
 - (9) Photographic Laboratories
 - (10) Fire Fighter Training Areas
 - (11) Swimming Pools
 - (12) Storm Sewers
- 5. Schedule of Compliance
- Requirements for Adjudicatory Hearing Request

Figure 1. Topical listing from an NPDES permit for USEPA Region IV.

DISCHARGE LIMITS

EFFLUENT CHARACTERISTICS	Concentration in mg/l		kg/day (lb/day)		Minimum Monitoring Requirements	
	Monthly Average	Weekly Average	Monthly Average	Weekly Average	Measurement Frequency	Sample Type
Biochemical oxygen demand (5-day)	30*	45	70 (150)		Twice weekly	24-hr composite
Suspended solids	30*	45	80 (180)		Twice weekly	24-hr composite
pH (standard units)	6.0-9.0 (Not to be averaged)				Twice weekly	Grab
Fecal coliform (organisms/100 mg)	200	400	—	—	Twice weekly	Grab
Flow (mgd)	—	—	—	—	Daily	Recording

*The arithmetic mean of the values for effluent samples measuring biochemical oxygen demand (5-day) and suspended solids collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (minimum: 85 percent removal).

Figure 2. Discharge limits and monitoring requirements.

To do this, the user selects commands that operate on valid keywords. Appendix A lists the pilot system's valid keywords and keyword categories. The system's selection commands are:

```
find (keyword)
and (keyword)
or (keyword)
except (keyword)
```

The "find" command selects from the total data base *only* those data records that contain the specified keyword. The "and," "or," and "except" commands work according to their logical meaning to enlarge or further limit the size of the data base section focused on by the selection command. This means the user can ask the system to retrieve a specific permit, retrieve and group all permits in a user-specified place, or retrieve and group all permits regulating one or more specified pollutants. For example, the command

find oil and grease

selects those permits that regulate the discharge of oil and grease. If the user then uses the command "and" with the keyword "ammonia-n"

and ammonia-n

the system limits the set of retrieved permits to those that regulate both oil and grease and ammonia-n. The series of commands

```
find oil and grease
or ammonia
and Region 4
```

tells the system to retrieve those permits that regulate discharges in USEPA Region IV which limit either oil and grease or ammonia-n. Such a subset of retrieved permits is called a "current list" by the system.

Assigned-Value Keywords

The user can control system retrieval even further by using special keywords called "assigned-value" keywords. These keywords are used to find the compliance status of each permit (based on the most recent self-monitoring report contained in the data base). They are called assigned-value keywords because their definition (value) can change every time the data base is updated. Appendix A lists the system's assigned-value keywords and their meanings. Assigned-value keywords let the user focus on only those discharges having some kind of problem meeting their permit requirements.

Effluent and Event Category Keywords

When a selection command having a keyword value from the "effluent" or "event" categories is used, the pilot system will ask the user to give it more information. For example:

1. When given a keyword from the effluent category, the system will ask "noncompliance?" If the user answers "yes," the system will list point sources for which the effluent has exceeded its permit limits. If the user answers "no," the system will list discharges for which the specified effluent constituent is being monitored as a permit requirement, regardless of compliance status.

2. When given a selection command having a keyword from the event category, the system will ask "noncompliance?" If the user answers "yes," the system will list only those events which are in non-compliance. If the user answers "no," the system will list any discharge for which the permit contains the specified event. The user also will be asked to give start and end dates; this allows the system to search for and retrieve an event which occurred within a given time span.

Restore Command

The "restore" command revokes the last selection command given. This command is used to correct input mistakes.

Appendix B is a syntax guide for the pilot system's commands. It also gives detailed descriptions of the selection commands.

Displaying Data

After the selection commands have isolated that part of the data base which the user wants to see, he uses the list and shows commands to print and examine that information. The "list" command is used with a keyword category name or names. It displays the keyword values associated with the permits in the part of the data base chosen by the selection commands (i.e., the current list). The list command cannot be used to display information from the events or assigned-value keyword categories. (Appendix C lists categories that may be displayed.)

For example, if the user inputs

```
find noncompliance  
list installation, descriptor, effluent
```

the system would list those installations in noncompliance with their NPDES permit, the type of discharge (e.g., washrack, cooling tower, or sewage lagoon), and the pollutant(s) exceeding the permitted level.

The "show" command, when used alone, displays the record number, permit number, source number, and facility name of each point source on the system's current list. When the show command is used with one or more of the options described below, data associated with that option is printed out. The options are:

1. keys: used to display the keyword values associated with each point source in the current list.
2. events: used to display the event schedules for each point source in the current list.
3. limits: used to display the effluent limits for each point source in the current list.
4. reports: used to display the most current set of monitoring reports submitted for the point sources in the current list.
5. notes: used to display the notes sections for each point source in the current list.

The syntax guide in Appendix B further defines the use of display commands.

Manipulating Data

At present, the pilot system has three commands for extracting and combining data base information.

The "summary" command creates a file of NPDES permit conditions which includes permit number, expiration date, discharge description, effluent limits, and sampling requirements. The summary command can be invoked on the whole data base or on that part of the data base isolated by the selection commands.

The "find report due" command is used to find out when the next self-monitoring reports are due. The system asks the user for the start and end dates of interest, then retrieves those permits that have a report due within that period. The list and show commands then can be used to generate further information.

The "letter" command creates a file of all permit violations for all point sources in the system's current

list. Permit violations include non-compliance with effluent limits, missing or late reports, late events, or missing data.

Appendix D contains samples of the information generated by the summary, find report due, and letter commands.

Other Features

The pilot system has an interactive data input subroutine which lets installations enter self-monitoring report data into the data base. This subroutine can be invoked by narrowing the current list to one point source, and typing the command "reports." The subroutine then will ask the user for all of the information about that point source, and automatically complete the self-monitoring report.

The "save file" and "restore file" commands can be used when the same set of permits has to be retrieved more than once.

4 CONCLUSION

This report has described a pilot data base and a data management system developed for Army NPDES permits and self-monitoring reports. This system allows a user to easily retrieve, aggregate, manipulate, and analyze effluent characteristics and other technical information contained in NPDES records.

APPENDIX A: KEYWORD VALUES

Part 1:

Category name: region

Keyword values:

region 2
region 3
region 4
region 5
region 6
region 7

forrest
henry
hinds
jefferson
kenton
lauderdale county
lee
leon
lincoln lumpkin
madison
n county
nelson
nottoway
palo pinto
pike
pulaski
richland
richmond
sebastian
tift
waynesboro

Part 2:

Category name: state

Keyword values:

alabama
arkansas
florida
georgia
indiana
kansas
kentucky
mississippi
missouri
new jersey
ohio
oklahoma
pennsylvania
south carolina
texas
virginia

Part 4:

Category name: city

Keyword values:

abbeyville
akron
anniston
bardstown
bellaire
blackstone
bowling green
brookhaven
bryan
cadiz
canton
clarksdale
delaware
fort thomas
freemont
gadsden
hattiesburg
huntsville
jackson
kenton
kings mills
louisville
mahwah
mansfield
marion
meridian
n city

Part 3:

Category name: county

Keyword values:

adams
belmont
calhoun
calhound
caroline
chattahoochee
comanche
covington
dale
essex
etowah
fairfax
floyd

natchez	ms0040495
opp	ms0040509
passover	ms0040517
pedricktown	ms0040576
possum kingdom lake	ms0040631
rome	nj0004855
sharonville	nj0021498
tallahassee	nj0021938
tifton	nj0024635
troy	oh0110264
tupelo	oh0110272
warrenville	oh0110299
waynesboro	oh0110302
wooster	oh0110329
	oh0110337
	oh0110345
	oh0110353
	oh0110361
	oh0110370

Part 5:

Category name: permit

Keyword values:

a10002178	oh0110388
a10003808	oh0110396
a10025336	oh0110400
a10026751	oh0110418
a10026760	ok0002216
a10026778	ok0002224
a10027073	ok0021385
a10027111	ok0021407
a10027120	ok0030295
ar0034452	ok0030317
fl0036099	pa0010251
ga00000973	so0003786
ga0006484	va0005827
ga0027316	va0005924
ga0027383	va0025186
ga0027405	va0025216
in0033456	va0026654
ks0002615	va0029904
ky0002917	va0029912
ky0042676	va0031071
ky0042684	va0032034
ky0042692	
ky0042706	
mo0029742	001
mo0029751	002
mo0029769	003
mo0029777	004
mo0058068	005
mo0061522	006
ms0040398	007
ms0040461	
ms0040479	
ms0040487	

Part 6:

Category name: source

Keyword values:

001
002
003
004
005
006
007

008
009
010
011
012

Part 7:

Category name: descriptor

Keyword values:

air conditioning cooling tower blowdown
boiler blowdown
cooling tower
domestic wastewater treatment plants
firefighter training area
material storage run-off
mobile water treatment plant
n descriptor
pot storage area
sewage lagoon
swimming pool backwash
washrack
water treatment plant backwash

Part 8:

Category name: watershed

Keyword values:

beechfork tributary
big miami river
big niney river
black lake drainage canal
bogue chitto river
branch of mill creek
brick kiln creek
brooking mill creek
butler creek
cache creek
cane creek
cane creek tributary
cave creek
chattahoochee river
choctahatchee river
clay bank creek
coosa river tributary
crosswicks creek
deer creek
delaware river
dilly branch
dothard creek
dry creek
east cache creek
etowah river

fall creek
gill creek
harrand creek
hipps folly
horseley creek
hurricane creek
indian creek
james river
jones branch
killbuck river
killbuck river via storm sewer
king's creek tributary
lake elmer thomas
lake of the ozarks
leaf river
letort spring
little miami river
little vache grasse creek
maracossic creek
maumee river via storm drain
mill creek
n watershed
new river
ohio river
okabibee creek
oleatangy river via storm drain
otter creek
passaic river
pearl river tributary
possum kingdom lake
potomac river
quarry creek ramapoo river
rappahannock river
reo river
roubidioux creek
roubidoux creek
sandusky river
scioto river
smith branch
south run
spirit creek
st. catherine creek
storm drainage system of tallahassee, florida
storm sewer
tennessee river
town creek
tuscarawas river
unnamed tributary
unnamed tributary of ohio river
unnamed tributary of the ohio river
unnamed tributary via storm drain
unnamed tributary via storm sewer
van's mills creek

walnut creek
west branch ware creek
wolf creek tributary

Part 9:

Category name: facility

Keyword values:

abbeyville usur center
anniston usur center
belmont county usur memorial center
carlisle barracks
clarksdale usur center
conway usur center
delaware memorial usur centers
fort a.p. hill
fort belvoir
fort benjamin harrison
fort benning
fort chaffee
fort dix
fort eustis
fort gordon
fort jackson
fort knox
fort leavenworth
fort leonard wood
fort mcclellan
fort monroe
fort pickett
fort rucker
fort sill
fort thomas usur center
franklin lakes family housing complex
gadsden usur center
harold b. durham jr. usur center
hastings usur center
hattiesburg usur center
hayes usur center
huisman usur center
huntsville usur center
jackson usur center no. 1
jackson usur center no. 2
kings mill training facility (usar)
knight usur center
livingston family housing complex
louisville no. 1 usur center
louisville no. 2 usur center
meridian usur center
natchez usur center
opp usur center
outcalt usur center
parrott usur center

pedricktown support center
pennington usur center
possum lake usur center
rome usur center
scouten usur center
talmadge whedden usur center
troy memorial usur center
troy usur center
tupelo usur center
ward memorial usur center
waynesboro usur center
woodford usur center

Part 10:

Category name: installation

Keyword values:

carlisle barracks
fort a.p. hill
fort belvoir
fort benjamin harrison
fort benning
fort dix
fort eustis
fort gordon
fort jackson
fort knox
fort leavenworth
fort leonard wood
fort mcclellan
fort monroe
fort pickett
fort rucker
fort sill

Part 11:

Category name: command

Keyword values:

tradoc

Part 12:

Category name: class

Keyword values:

major
minor

Part 13:

Category name: instal_type

Keyword values:

active
reserve

Part 14:

Category name: effluent

Keyword values:

ammonia-n
bod5-%removal
bod5
chromium
cod
copper
dissolved oxygen
fecal coliform
flow
iron
manganese
oil and grease
ph
phosphorus
residual chlorine
settleable solids
ss
temperature
total n
tss-%removal
tss
unoxidized n
zinc

no reports: records which have no self-monitoring reports on file.

late reports: records which have no self-monitoring reports on file for the latest scheduled reporting period.

missing data: records whose self-monitoring reports have missing data.

noncompliance: records whose self-monitoring reports have effluents in noncompliance with permit limits.

Part 15:

Category name: event

Keyword values:

approval of funding
attain final effluent limitations
attain operational level
attainment of final effluent limitations
attainment of operational level
award of contract
begin construction
commence construction
commencement of construction for upgrading facilities
commencement of construction for upgrading facility
commencement of construction
complete construction for upgrading facilities
complete construction of the required facilities to achieve compliance
complete construction of upgraded facility
complete final plans and specifications
complete operation and maintenance program
completion of construction by
completion of final plans for achieving compliance
completion of plans
completion of preliminary plans
construction begins
construction complete
effective data
expiration date for interim limitations
expiration date
expiration of interim effluent limitations
final design
final funding
final plans completed
first discharge monitoring report due
operational by
progress report on preliminary plans
reapply for permit

Part 16:

NPDES PSM-assigned value keywords:

all
event exceptions
late events
effluent exceptions
no reports
late reports
missing data
noncompliance

Meanings

all: every record in the data base.

event exceptions: records whose event schedules are modified by further conditions explained in the notes section of the data base.

late events: records whose event schedules contain late events.

effluent exceptions: records whose effluent limits are modified by conditions explained in the notes sections of the data base.

report of construction progress	submit final engineering report
report of funding progress	submit listing of existing sources
report of progress for achieving compliance	submit preliminary engineering report
report of progress	submit progress report to regional administrator
report on construction progress by	submit schedule of actions to achieve compliance
submit a report of progress on construction of facilities	

APPENDIX B: SYNTAX GUIDE

find <keyword value>
or <keyword value>
and <keyword value>
except <keyword value>
list <category name>
show <option name>
save <filename>

restore <filename>
help <command name>
letter <filename>
summary <filename>
reports
quit

APPENDIX C: LIST COMMAND CATEGORIES

The list command operates on the following keyword categories:

installation
state
county
city
permit
source
descriptor
watershed
facility
command
effluent

APPENDIX D: SAMPLE OUTPUT

Sample Output: Final report due command

What next?
find report due
enter starting date: 82/01/01
enter ending date: 82/01/31
94 found

What next?
and noncompliance
25 found
22 in current list

What next?
list installation permit
fort a.p. hill (2)
 permit: va0031071
fort belvoir (2)
 permit: va0025186
fort benjamin harrison (1)
 permit: in0033456
fort benning (3)
 permit: ga0000973
fort dix (1)
 permit: nj0004855
fort knox (1)
 permit: ky0002917
fort mcclellan (3)
 permit: ms0040576
fort monroe (1)
 permit: va0005924
fort pickett (1)
 permit: va0245194
fort rucker (5)
 permit: al0002178
fort sill (2)
 permit: ar0034452

Sample Output: letter command

tupelo usar center (fort mcclellan)
ms04057001

For the report covering 79/04/01 to 79/07/01

oil and grease

reported average concentration 17 mg/L;
requirement is 10
reported maximum concentration 17 mg/L;
requirement is 15

ph:

reported minimum concentration 5.6 stunit;
requirement is 6.0

anniston usar center (fort mcclellan)
al0027120 001

For the report covering 79/04/01 to 79/07/01

tss:

reported average concentration 57 mg/L;
requirement is 25
reported maximum concentration 57 mg/L;
requirement is 40

oil and grease

reported average concentration 105 mg/L;
requirement is 10
reported maximum concentration 105 mg/L;
requirement is 15

fort rucker (fort rucker)
ms0040495 001

jackson usar center no. 2 (fort rucker)
ms0040461 There are no self-monitoring reports
on file.

For the report covering 79/4/1/ to 79/6/30

oil and grease

reported average concenteration 85 mg/L;
requirement is 10
reported maximum concentration 85 mg/L;
requirement is 15

tss:

reported average concentration 364 mg/L;
requirement is 25
reported maximum concentration 364 mg/L;
requirement is 40

ph:

reported minimum concentration 5.6 stunit;
requirement is 6.0

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